

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER: Guidotti, L. C.

TITLE: FUNCTIONAL TOOTHBRUSH

Amendment A: REMARKS

Upon entry of the present amendments, previous independent Claims 1 - 8 have been canceled and new Claims 9 - 16 substituted therefor. Reconsideration of the rejections, in light of the foregoing amendments and present remarks, is respectfully requested. The present amendments have been entered for the purpose of placing the claim language into a more proper U.S. format and for the purpose of more clearly distinguishing the present invention from the prior art.

In the Office Action, Claims 1, 2, 5 and 6 were rejected as being obvious over the Moskobish patent in view of the Kweon patent and the Trojanowski publication. Claims 3 and 7 were rejected as being obvious over the Moskobish patent, the Kweon patent, the Trojanowski publication and further in view of the Oishi patent. Claims 4 and 8 were rejected as being obvious over the Moskobish patent, the Kweon patent, the Trojanowski publication and further in view of the Kaneda patent.

As an overview to the present reply, Applicant has revised previous Claims 1 - 8 in the form of new Claims 9 - 16. New Claims 9 - 16 expresses the original limitations in a more proper U.S. format, including proper antecedent bases and proper structural interrelationships throughout. Any indefinite terminology found in the original claim language has been corrected herein.

Relative to the prior art rejections, Applicant respectfully contends that the Moskobish patent does not show or suggest the present invention. The Moskobish patent relates to a toothbrush having generally non-needle-shaped bristles rather than "needle-shaped bristles". This is quite different than the present invention. Needle-shaped bristles are bristles that have a tip thickness of between 0.01 and 0.08 millimeters that become gradually thinner toward the end portion thereof. Generally non-needle-shaped bristles have a tip thickness of between 0.10 and 0.20 millimeters. The end portions thereof will have a cylindrical shape.

It should be noted that the bristles in the Moskobish patent are formed of a nylon material. In contrast, the bristles of the present invention are formed from a polyester material. The bristles that are made from polyester material are more stiff than the bristles that are made from nylon material. If the tips of bristles made from the polyester material were used in an non-tapered condition, they could possibly damage the gums.

Additionally, in the Moskobish patent, there are no bristles tufts that are set in the longitudinally elongate grooves. In the Moskobish patent, it is stated that "the bristles bars 90" are an integrated part that forms a bar shape. This made from a rubber material. They are not formed from the tufts of bristles. In the present invention, the tufts of the bristles having a elliptical shape which are elongated in the longitudinal and lateral directions. The Moskobish patent only features the gumline tufts 88 which are elongated in a longitudinal direction. As such, the present invention is different than the Moskobish patent, as defined by independent Claims 9 and 13. The effects of the respective tooth brushes are quite different.

The Moskobish patent differs from the present invention significantly relative to the tooth brush manufacturing method of independent Claim 13. In the toothbrush of the present invention,

the bristles are folded and fixed by a wire. In contrast, in the Moskobish patent, a wireless, staple-free method is utilized. In column 9, lines 18 - 22 of the Moskobish patent, it is stated that "while certain of the bristles may be attached by staples as is conventional, the bristles bars, scopes and other densely packed bristles generally must be attached using newer staple-free technology such as fusion, thermoforming, or injection molding." The in-mold "wireless"-type bristle tufting machine will include an injecting molding machine. As such, the cost of manufacture is very high. In contrast, the present invention advantageously allows the existing bristle tufting machines to be used in their standard manner because the bristles are tufted using a wire. Also, in-mold "wireless"- type manufacturing method, bristles are fixed in such a manner that bristles rolled around a large spool are successively tufted (see Fig. 1). The needle-shaped bristles cannot be tufted in the manner because the needle-shaped bristles are manufactured by the method illustrated in Fig. 2 and are distributed in a cylindrical bundle having a height of 30 millimeters and a diameter of 10 millimeters.

Relative to the Kweon patent, it is noted that the Kweon patent was invented by the inventor of the present invention and relates to a toothbrush that is tufted with needle-shaped bristles having a tapered tip thickness of 0.04 millimeters to 0.08 millimeters. This toothbrush is identical with the toothbrush which is illustrated as part of the prior art in Figure 1 the present specification. It is noted that the present invention is intended to solve a variety of problems there are encountered with the toothbrush of the prior art Kweon patent.

The Oishi patent relates to a toothbrush having generally non-needle-shaped bristles that are formed a nylon material. In the drawings of the Oishi patent, there are mountain-or needle-shaped bristles. However, these refer to the shape of entire bristle tufts rather than the shape of individual bristles. All bristles which are tufted in the toothbrush in Oishi patent are generally non needle-

shaped bristles bristles. Accordingly, the Oishi patent is fundamentally different from the present invention for the same reasons as described hereinbefore in association with the Moskovich patent.

In Figure 6, a method of tufting bristles for the toothbrush described in the Oishi patent is illustrated. Based on this, it can be seen that the bristles for the toothbrush of the Oishi patent are tufted using an anchorless (wireless) method rather than a wire-fixing manner, namely, by folding bristles in half and fixing them using a wire.

With respect to the Kaneda patent, the Kaneda patent shows a toothbrush made by folding in half the bristles. The bristles are needle-shaped on one side and have a ball-like portion on the other side for gum massage purposes. The diameter of the ball-like portions ranges from 0.15 millimeters to 0.38 millimeters. As such, they are quite large. The Kaneda patent does not disclose the specific diameter in the needle-shaped side of the bristle. Thus, the present invention would not be disclosed by the technology described in the Kaneda patent.

As such, it can be seen in the present invention the bristles are fixed using a wire so that the shapes of the tufts of bristles are symmetrical.

On this basis, Applicant respectfully contends that the prior art combination of the Moskobish, Kweon, Oishi patents would not show the present invention as claimed herein. Fundamentally, the prior art combination would not show that the pluralities of rows of needle-shaped bristles are positioned "by a wire" in the elongate grooves. The prior art combination would not show that the needle-shaped bristles in the first plurality of having a length that is longer by between 1.5 millimeters and 3.5 millimeters than a length of the needle-shaped bristles in the second plurality of rows. The prior art combination would not show that the longitudinally elongate grooves and the laterally elongate grooves have an elliptical shape.

Similarly, with respect to independent Claim 13, there is no teaching or suggestion in the prior art combination that the pluralities of rows of needle-shaped bristles are positioned "by a wire" in the respective grooves.

With respect to dependent Claim 10, the prior art combination does not show "needle-shaped bristles". In particular, the prior art combination does not show that the differing thicknesses of the end points of the bristles is between 0.01 millimeters and 0.03 millimeters. On this basis, Applicant respectfully contends that dependent Claim 10 is not shown by the prior art combination. Similarly, dependent Claim 14 would not be shown by this prior art combination.

Relative to the claims herein, new independent Claim 9 corresponds to the limitations of previous independent Claim 1. Dependent Claims 10 - 12 correspond to the limitations of previous dependent Claims 2 - 4. Independent Claim 13 corresponds to the limitations of previous independent Claim 5. Dependent Claims 14 - 16 correspond to the limitations of previous dependent Claims 6 - 8.

Based upon the foregoing analysis, Applicant contends that independent Claims 9 and 13 are now in proper condition for allowance. Additionally, those claims which are dependent upon these independent claims should also be in condition for allowance. Reconsideration of the rejections and

allowance of the claims at an early date is earnestly solicited. Since no new claims have been added above those originally paid for, no additional fee is required.

Respectfully submitted,

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